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IMAGES IN CARDIOLOGY

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Percutaneous transluminal removal of intracardiac vegetations

A 59 year old man was hospitalised for clinical signs of sepsis (methicillin resistant *Staphylococcus aureus*) with two large bacterial vegetations adherent on his automatic implantable cardioverter-defibrillator (AICD) lead in the right atrium and superior vena cava (panel A). Eight weeks earlier, septic ulcers first appeared on both chronic ischaemic legs (obstructive peripheral arterial disease) due to a 30 year history of insulin dependent diabetes mellitus (including diabetic nephropathy with chronic nephrodialysis since five years previously). The AICD had been implanted 15 months earlier, and two cardiac aortocoronary revascularisation operations had been carried out two and nine years earlier.

Due to the remaining septic source on both ischaemic legs which showed no improvement despite antibiotic treatment, concerns over the disturbed secondary wound healing, as well as the past history of two cardiac revascularisations, the cardiac surgeon refused to extirpate the two vegetations surgically. The decision for the first percutaneous vegetectomy was made.

In order to prevent a major pulmonary embolism, an Antheor vena cava filter (MediTech, Boston Scientific/Scimed, Inc) was inserted into the main pulmonary artery (panel B). For percutaneous extirpation of the two large vegetations, a 10 French multipurpose guiding catheter

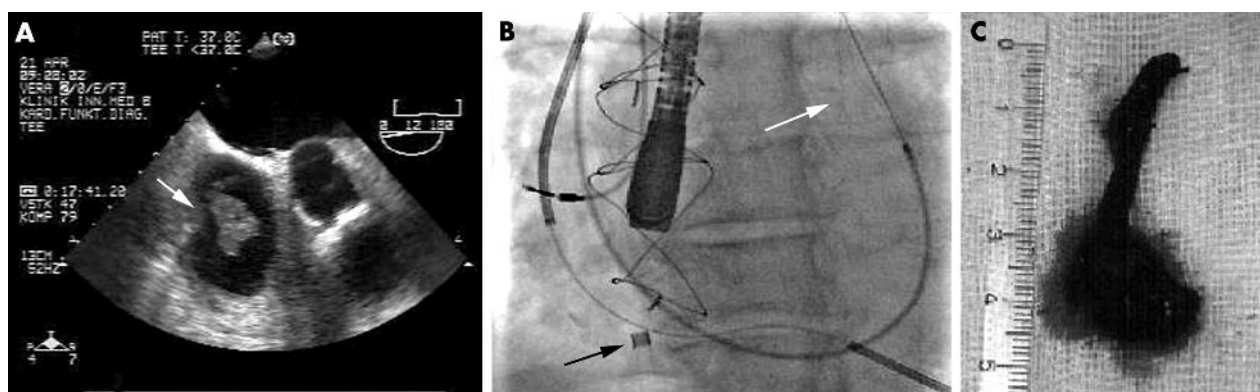
(Cordis) was inserted from the right vena femoralis under continuous transoesophageal guidance (panel B). For manoeuvring the 10 French catheter opening directly in front of the vegetations, an 8 French Judkins right guiding catheter was used. Using a 50 ml syringe the first vegetation was successfully evacuated through the 10 French guiding catheter. The second (larger) vegetation could only be evacuated into the tip of the guiding catheter. Through continuous vigorous suction, the vegetation could be fixed there and subsequently removed from the AICD lead by pulling retrogradely. For the final extirpation, a surgical incision of the vena femoralis was done (panel C). The infected AICD leads were successfully removed the next day. Thrombus with large amounts of fibrin and leucocytes with basophilic sediment (as a sign of bacterial invasion) were observed histologically. After the source of the sepsis was removed, the patient improved dramatically and became afebrile and aseptically during the following days. For treatment of the secondary source of infection (ischaemic leg ulcers) percutaneous Excimer laser assisted angioplasty was successfully carried out subsequently.

J B Dahm

P Hinz

D Vogelgesang

dahm@mail.uni-greifswald.de



(A) Transversal transoesophageal echocardiography of one of the two vegetations adherent on the AICD lead (arrow) in the right atrium. (B) Posterior anterior x ray showing the 10 French guiding catheter in the right atrium (black arrow) and the cava filter in the main pulmonary artery (white arrow). (C) Extirpated vegetation (4.5 × 2.0 cm).